

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-39. (Cancelled).

40. (Currently Amended) A computer program product for mapping a plurality of cells from a plurality of different cell lines of different cell types after applying a manipulation to said plurality of cells, based upon a statistical analysis of a morphological value, said computer program product comprising:

code for capturing a morphological value from each of said plurality of manipulated cells for each of said plurality of different cell lines;

~~code for assigning a degree of presence for each of said morphological values;~~

~~code for storing said degrees of presence;~~

code for producing a fingerprint characterizing the manipulated cells, wherein the fingerprint comprises morphological values for the plurality of manipulated cells for each of the plurality of different cell lines;

code for producing a statistical profile of said manipulated cells by statistically comparing said fingerprint against fingerprints associated with known behaviors in a database ~~combining the morphological values or degrees of presence of said morphological values in said plurality of different cell lines whereby a statistical profile of said manipulated cells is produced;~~ and

code for mapping said plurality of manipulated cells based upon said statistical profile; and

a computer readable storage medium for holding the codes, wherein said morphological value is derived from a first component of a cell and a second component of said cell and wherein said morphological value is a cell count, an area, a perimeter, a length, a breadth, a fiber length, a fiber breadth, a shape factor, an elliptical form factor, an inner radius, an outer radius, a mean radius, an equivalent radius, an equivalent sphere volume, an equivalent prolate volume, an equivalent oblate volume, an equivalent sphere surface area, an average gray value, a total gray value, or an optical density.

41. (Original) The computer program product of claim 40 wherein said first component and said second component are selected from a protein, a protein modification, a nucleic acid, a lipid, a carbohydrate, a subcellular structure and an organelle.

42. (Original) The computer program product of claim 40 wherein said manipulation occurs in a manner selected from a electrical source, a chemical source, a thermal source, a gravitational source, a nuclear source, a temporal source, and a biological source.

43. (Original) The computer program product of claim 42 wherein said chemical source is selected from a pharmacological candidate and a drug screening library.

44-50. (Cancelled)

51. (Previously Presented) The computer program product of claim 40 wherein the cells are NCI-H460, A549, MDA-MD-231, MCF-7, SK-OV-3, OVCAR-3, A498, U-2 OS, or HeLa cells.

52. (Cancelled)